REMARKS

Claims 1-43 are pending in the application. Applicants respectfully request reconsideration of the rejections set forth in the Office Action dated August 22, 2005 in view of the following remarks.

Rejection Under 35 U.S.C. § 103

Claims 1-20 and 23-43 were rejected were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,377,627 to Shen et al. ('Shen') in view of U.S. Patent No. 6,304,604 to Alidetta et al. ('Alidetta').

Claims 21 and 22 were rejected were rejected under 35 U.S.C. 103(a) as being unpatentable over Shen in view of U.S. Patent No. 6,763,070 to Lee et al. ('Lee').

Shen wants to save computations and reduce processing complexity at synchronized transcoders and decoders. He determines if a non-zero value is located in the $C_{7,7}$ position of a block DCT matrix, and constructs a simple dummy matrix. The dummy matrix has all zeroes except for a '1' in the $C_{7,7}$ position, which saves computations when processing rows and columns in a modified block that includes all zeroes after removing a 1' in the $C_{7,7}$ position.

Alidetta provides a method for decompressing video data that minimizes the number of transpose operations by altering the row and block configuration of intermediate coefficients.

Applicants respectfully traverse the rejections. The combination of Shen and Alidetta: a) contradicts rules for the §103 combination of references per the MPEP, and b) provides a modification to the primary reference that doubly results in an inoperable system according to the teachings of Shen.

The rejections contradict several rules for the §103 combination of references per the MPEP. First, see MPEP §2141.02: "Prior Art Must be Considered in Its Entirety, Including Disclosures that Teach Away From the Claims". To simplify processing, Shen constructs a modified matrix and a dummy matrix. The dummy matrix has a zero in each matrix position with the exception of the $C_{7,7}$ position. The modified matrix has "the same content as the original matrix with the exception of a zero in the preselected corner value position". The simplicity of Shen's system is that there is only one thing to check for: the $C_{7,7}$ position, which allows him to

use the same dummy matrix – and reduce the number of computations significantly from 40 to 0 by only changing a single DCT for each block (see col. 3, lines 3-22). Determining the location of zero values or near zero values for multiple rows and for multiple columns in the block of transform coefficients (as recited in the claims), requires Shen to do more computations than his easy and desired single step. Shen finds a simple way to reduce IDCT processing; the present invention, however, increases the searching complexity by determining the location of zero values or near zero values for multiple rows and for multiple columns. Shen teaches against full application of the IDCT algorithm and additional processing (see col. 3, lines 3-22). Shen's strict desire to maintain simplicity and only check a single IDCT thus teaches against more computations and the claims.

Moreover, it is respectfully submitted that an obviousness rejection based on modification of a reference must result in an operable device. See MPEP §2143.01: "The proposed modification cannot render the prior art unsatisfactory for its intended purpose".

First, modification of Shen towards the claimed invention would render Shen inoperable. Shen openly states "the dummy matrix, which always remains the same, can be precalculated and stored" (see Summary, col. 3, lines 47-48; emphasis added). The same dummy matrix is stored on each transcoder and each receiver. As mentioned above, the simplicity of Shen's system is that the dummy matrix does not change – it is the same every time. Shen's modified matrix and dummy matrix are thus blind to values outside the $C_{7,7}$ corner. By "determining the location of zero values or near zero values for multiple rows and for multiple columns in a block of transform coefficients", and "performing one-dimensional inverse transforms on a subset of the total number of rows and columns in the block of transform coefficients by using the zero pattern information", the claimed invention may produce different results for different matrices. Shen's downstream decoder, which includes an adder that adds the modified matrix and the fixed dummy matrix to produce the original matrix, is blind to any block DCT variability. Shen's downstream decoder assumes a fixed dummy matrix and consistent changes to the incoming blocks (only a change in the $C_{7,7}$ position). Variability in multiple rows and multiple columns would spoil Shen's downstream decoder since Shen's downstream decoder would not be able to accommodate the variability and recreate the original matrix according to its fixed and blind operation. The simplicity of Shen's system, which is that the modified matrix and dummy matrix are thus blind to values outside the $C_{7,7}$ corner, would be ruined.

Second, the transpose minimizing techniques of Alidetta alter how blocks of DCTs are processed, in what order, and how they are stored. Combining Alidetta's transpose minimizing techniques with Shen would create even more variability for the fixed dummy matrix processing techniques of Shen. More specifically, Alidetta alters the DCTs and their order based on whether the row/column transposing will reduce the number of transpose operations. These changes will create modified DCT blocks that do not match Shen's assumed modified (and dummy) matrix. Shen expects the modified matrix to look a certain way when it is added to the dummy matrix by a decoder (see cols. 3 and 4). Changing the order and arrangement of DCTs - per Alidetta - thus would also cripple Shen's ability to simply reconstruct his simplified modified matrix and dummy matrix, and thus lead to an inoperable device as taught by Shen.

For at least these reasons, the art of record, either alone or in combination, does not teach or suggest amended independent claims 1, 11, 24 and 34.

Claims 2-10, 12-23, 25-33 and 24-43 each depend either directly from independent claims 1, 11, 24 and 34, respectively, and are therefore respectfully submitted to be patentable over the art of record for at least the reasons set forth above with respect to the independent claim. In addition, the dependent claims recite additional elements which when taken in the context of the claimed invention further patentably distinguish the art of record.

Withdrawal of the rejections under 35 USC 103(a) is therefore respectfully requested.

Applicants believe that all pending claims are allowable and respectfully requests Notice of Allowance from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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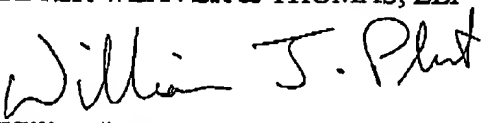

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